Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	259	367/75.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/02 11:37
S2	32	367/75.ccls. and Poisson	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 16:59
S3	220	(P-wave) near3 velocity	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 17:00
S4	131	((P-wave) near3 velocity) and S-wave	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 17:12
S5	122	("best linear unbiased estimator") or kriging	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 17:14
S6	2	S5 and P-wave	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 17:16
S7	36	S5 and velocity	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 17:34
S8	122	("best linear unbiased estimator") or kriging	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 17:34
S9	36	S8 and velocity	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 17:34
S10	3	S9 and viscosity	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/22 17:34
S11	55	367/54.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/25 11:00
S12	1	367/54.ccls. and poisson	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/25 11:01

S13	6	("2087120" | "4577298" | "4695984" | "4817061" | "H001529").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2004/10/25 11:01
S14	3	("5587968").URPN.	USPAT	OR	ON	2004/10/25 11:05
S15	368	702/6,18.ccls.	USPAT	OR	ON	2004/10/25 11:06
S16	23	702/6,18.ccls. and poisson	USPAT	OR	ON	2004/10/25 11:11
S17	57	367/37,38.ccls. and ((compress$ adj wave) or P-wave) and velocity	USPAT	OR	ON	2004/10/25 11:26
S18	579	((compress$ adj wave) or P-wave) with (velocity or slowness)	USPAT	OR	ON	2004/10/25 11:27
S19	210	((compress$ adj energy) or P-wave) with (velocity or slowness)	USPAT	OR	ON	2004/10/25 11:27
S20	81	(S18 or S19) and (poisson or krig$)	USPAT	OR	ON	2004/10/25 11:27
S21	81	(S18 or S19) and (poisson$ or krig$)	USPAT	OR	ON	2004/10/25 11:28
S22	0	P-wave and (ground adj stiff$)	USPAT	OR	ON	2004/10/25 12:04
S23	0	P-wave and ("Best Linear Unbiased Estimator")	USPAT	OR	ON	2004/10/25 12:04
S24	5	("Best Linear Unbiased Estimator")	USPAT	OR	ON	2004/10/25 12:13
S25	17	P-wave and krig$	USPAT	OR	ON	2004/10/25 12:13
S26	18	367/50.ccls. and ((compress$ adj wave) or P-wave) and (velocity or energy)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/10/25 12:25
S27	124	("best linear unbiased estimator") or kriging	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 09:26
S28	277	(p-wave or (compress$ adj wave)) and vibrat$ near3 surface	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 11:26
S29	52	(p-wave or (compress$ adj wave) with estimate) and vibrat$ near3 surface	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 11:39
S30	1	((p-wave or (compress$ adj wave)) with estimate) and vibrat$ near3 surface	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 11:29
S31	10	(weathering adj layer) and (velocity near5 estimate)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 12:06

S32	48	(weathering or surface) adj layer and velocity adj (determinat$ or estimat$)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 12:21
S33	0	seismic and lysmer$	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 12:21
S34	9	Lysmer$	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 12:48
S35	1	P-wave with weathering and velocity	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 14:18
S36	1	weather$ adj layer with (determine near4 velocity)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 15:54
S37	2	weather$ adj layer with ((determine or estimate) near4 velocity)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 15:54
S38	136	vibroseis and velocity	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/01 16:31
S39	12	"3794827"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/02 13:54
S40	11	"4750157"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/02 14:07
S41	5	"5587968"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/02 14:11
S42	3	"6611764"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/11/02 14:11
S43	9	("4577297" | "4736347" | "4881209" | "4964088" | "5579282" | "5587968" | "5999489" | "6067275" | "6128580").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2004/11/02 14:13
S44	299	367/3	US-PGPUB; USPAT; USOCR	OR	ON	2004/11/02 14:13

S45	212	"367"/$.ccls. and (uphole or borehole) and vibrator	US-PGPUB; USPAT; USOCR	OR	ON	2004/11/02 14:18
S46	51	"367"/$.ccls. and (uphole or borehole) and vibroseis	US-PGPUB; USPAT; USOCR	OR	ON	2004/11/02 14:14
S47	161	(S45 or S46) and velocity	US-PGPUB; USPAT; USOCR	OR	ON	2004/11/02 14:18

TI - USE OF VIBRATOR PERFORMANCE DATA TO IMPROVE NEAR- SURFACE VELOCITY DETERMINATION

SO - MS THESIS, 2002; MASTERS ABSTR INT V 41, NO 3, P 745, 2003 (ISBN 0-493-87329-5; ORDER NO MA1411248; 137 PP; ABSTRACT ONLY) (AO)

AB - The reliable estimation of near-surface **P-wave velocity** is one of the key problems in land seismic exploration. Uphole surveys are usually used to acquire near-surface velocity information. However, in the presence of rapidly varying near-surface geology, such estimation is inherently uncertain due to the sparse uphole sampling grid. A principal goal of this study is to determine a relationship between the densely sampled vibrator performance control data, obtained in the course of normal seismic data acquisition, and uphole **P-wave velocity** so that the two data sets can be integrated using geostatistical techniques to provide improved near-surface velocity models. A theoretical model was derived relating near-surface **P-wave velocity** to vibrator control system estimates of ground stiffness and viscosity. Estimated velocity from these vibrator measurements exhibited good statistical correlation over a large, 3D, seismic survey area with uphole velocities down to a 50-m depth. (Original not available from T.U.)

TI - ROCK MASS EVALUATION USING IN-SITU VELOCITY AND ATTENUATION MEASUREMENTS

SO - EUROPE J ENVIRON ENG GEOPHYS V 5, NO 1, PP 15-31, DEC 2000 (23 REFS)

AB - A method to determine, in situ, the degree of fracturing and **weathering** of granite rock massifs beneath a sedimentary cover is described. Using refraction data for **P-wave velocity** determination and attenuation measurements, obtained from a radial set of seismic lines in each place, rock mass assessment was achieved. Attenuation measurements were obtained from seismic attenuation spectra and by determination of the Q factor using the spectral ratio method. A quality index of the rock was built from direct observation of the fracture system and **weathering** degree and other parameters. A multivariate statistical analysis of the data was carried out. Preliminary results show that the method can be applied with success to granite mass evaluation, especially if the effect of the sedimentary cover is eliminated.

TI - DIAGENETIC AND SEDIMENTOLOGIC EXPLANATION FOR HIGH SEISMIC VELOCITY AND LOW POROSITY IN MESOZOIC-TERTIARY SEDIMENTS, SVALBARD REGION

SO - AAPG BULL V 65, NO 1, PP 145-153, JAN 1981

AB -
IN THE POST-PALEOZOIC ROCKS ON SVALBARD (SPITZBERGEN, EDGEOYA, AND BARENTSOYA), PRIMARY MINERAL COMPOSITIONS, TOGETHER WITH DEPOSITIONAL ENVIRONMENT AND STRATIGRAPHIC RELATIONS, HAVE BEEN MAJOR FACTORS IN ESTABLISHING MATURE DIAGENESIS. CLOSE TO THE SURFACE THE CARBONATE CEMENT OF THE ROCKS HAS BEEN ALTERED TO IRON OXIDE WITH A RESULTING INCREASE IN POROSITY. IN SITU **P-WAVE VELOCITY** MEASUREMENTS WITH DEEPER WAVE PATHS INTO UNALTERED ROCKS GIVE A PICTURE OF THE DIAGENESIS OF THESE ROCKS. THE HIGH VELOCITIES AND THE LOW POROSITIES PRESENT THROUGHOUT SVALBARD DO NOT AGREE WITH EARLIER ASSUMPTIONS OF DECREASING CONSOLIDATION

EASTWARD IN THE MESOZOIC-TERTIARY SPITZBERGEN BASIN. A
VELOCITY INVERSION IS PRESENT ON BJORNOYA, IN THE W. BARENTS
SEA, WHERE PERMIAN CARBONATES WITH VELOCITIES OF 5.4 TO 5.6
KM/SEC AND LOW POROSITIES REST ON CARBONIFEROUS AND
DEVONIAN SEDIMENTARY ROCKS WITH LOWER VELOCITIES AND HIGER
POROSITIES. (29 REFS.)

Search statement   9

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704936

Title :

ESTIMATION OF NEAR-**SURFACE** SHEAR-WAVE VELOCITY BY
INVERSION OF RAYLEIGH WAVES

Author :

XIA, J; MILLER, R D; PARK, C B

Organiz. Source :

KANSAS GEOLOGICAL SURVEY

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GEOPHYSICS V 64, NO 3, PP 691-700, MAY-JUNE 1999 (32 REFS)

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PROPAGATION*; SHALLOW REFLECTION*; SHEAR WAVE
VELOCITY*; VELOCITY*; WAVE*; WAVE PHENOMENON*; WAVE
PROPAGATION*; WAVE VELOCITY*; ANALYTICAL METHOD;
BOREHOLE; BOUNDARY; BOUNDARY CONDITION (MATH);
CHARACTERISTIC; CHART; CONVERGENCE (MATHEMATICS);
DAMPING; DATA; DENSITY; DERIVATIVE (MATHEMATICS);
DOWNHOLE SEISMIC SOURCE; EARTH MODEL; EQUATION;
EXPLORATION; FIELD TESTING; FORMATION THICKNESS;
FREQUENCY; FREQUENCY RESPONSE; FUNCTION
(MATHEMATICS); GEOPHYSICAL DATA; GEOPHYSICAL
EXPLORATION; GEOPHYSICAL INTERPRETATION; GRAPH; HALF
SPACE; HIGH FREQUENCY; INTERPRETATION; INTERVAL
VELOCITY; ITERATION; LIMIT; MATRIX ALGEBRA; MODEL;
MULTIPLE LAYER MODEL; PARTIAL DIFFERENTIAL EQUAT;
PHASE CHARACTERISTIC; PHASE VELOCITY; PHYSICAL
PROPERTY; RAY PATH; RECORD; REFLECTION RECORD;
RESPONSE; ROCK DENSITY; SEISMIC DATA; SEISMIC
EXPLORATION; SEISMIC INTERPRETATION; SEISMIC RECORD;

SEISMIC VELOCITY; SEISMIC WAVE PATH; SEISMIC WAVE SOURCE; SHEAR WAVE; SIMULATION; SPECTRAL ANALYSIS; TABLE (DATA); TESTING; THICKNESS; TRANSMISSION (SEISMIC); VECTOR ANALYSIS; WAVE DAMPING; WAVE FRONT; WAVE PATTERN; WAVE SOURCE

Main Heading :

SEISMIC VELOCITY COMPUTATN*

Category Codes :

GEOPHYSICS

Abstract :

The shear-wave (S-wave) velocity of near-**surface** materials (soil, rocks, pavement) and its effect on seismic wave propagation are of fundamental interest in many ground-water, engineering, and environmental studies. Rayleigh-wave phase velocity of a layered-earth model is a function of frequency and 4 groups of earth properties: **P-wave velocity**, S-wave velocity, density, and thickness of layers. Analysis of the Jacobian matrix provides a measure of dispersion-curve sensitivity to earth properties. S-wave velocities are the dominant influence on a dispersion curve in a high-frequency range (> 5 Hz) followed by layer thickness. An iterative solution technique to the weighted equation proved very effective in the high-frequency range when using the Levenberg-Marquardt and singular-value decomposition techniques. Convergence of the weighted solution is guaranteed through selection of the damping factor using the Levenberg-Marquardt method. Synthetic examples demonstrated calculation efficiency and stability of inverse procedures. The method is verified using borehole S-wave velocity measurements.

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